

**THE EFFECTIVENESS OF USING PICTURE WORDS INDUCTIVE  
MODEL (PWIM) IN WRITING A PROCEDURE TEXT**  
*(A Pre-Experimental Research on the Tenth Grade Students of SMKTI Al-  
Madani Pontianak Academic Year 2012/2013)*

**AN ARTICLE**

**By:**

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**Abstract:** The main interest of this research is to investigate the effect of the use of PWIM technique in improving the students' ability in writing procedure text. In conducting this research, researcher used pre-experimental method which consisted of pre-test, treatment, and post-test. The technique in data collecting was measurement technique. The steps in data collecting were administrating pre-test, giving treatment, administrating post-test, and analyzing the test result. The result of this research showed the mean score of pre-test was 51.91 and the mean score of post-test was 63.97. it was also stated that the Effect Size (ES) of the treatment was 0.9 which means the use of PWIM was highly effective in increasing the students' ability in writing procedure text.

**Key Words:** Pre-Experimental, PWIM.

**Abstak:** Penelitian ini bertujuan untuk menginvestigasi efek dari penggunaan teknik PWIM untuk meningkatkan kemampuan siswa dalam menulis teks prosedur. Dalam melaksanakan penelitian ini, peneliti menggunakan metodologi pre-experimental yang terdiri dari pre-test, treatment dan post-test. Teknik pengumpulan data yang digunakan adalah teknik measurement. Adapun langkah-langkah pengumpulan data adalah sebagai berikut; melaksanakan pre-test, memberikan treatment, melaksanakan post-test, dan menganalisa hasil tes. Hasil dari penelitian menunjukkan nilai rata-rata pre-test sebesar 51,91 dan nilai rata-rata post-test sebesar 63,97. Adapun Effect Size (ES) dari treatment sebesar 0,9 yang berarti penggunaan PWIM efektif dalam meningkatkan kemampuan siswa dalam menulis teks prosedur.

**Kata Kunci:** Pre-Experimental, PWIM.

This journal focuses to investigate the students' ability in constructing the procedure text. It also focuses in investigating the effect of the use of Picture words Inductive Model (PWIM) technique in improving the students' ability in writing procedure text.

Writing skill is one of the language skills besides speaking, reading and listening. This skill plays an important role in language learning. Through writing, students are able to express their ideas into correct and meaningful sentences and paragraphs. Heaton (1988:144) said that students' ability to organize ideas and to express them in their own words is an essential skill for real-life communication. To make a correct and meaningful writing, students need to know and to understand the grammatical rules such as structure, grammar and punctuation. They also should comprehend what kind of text genre they want to write.

There are various genres in text writing. One of them is procedure text. Based on "Kurikulum Tingkat Satuan Pendidikan (KTSP)", this text is one of the compulsory texts which are taught especially in the vocational school. Therefore, the students of vocational school should master it. Besides, this text can be very useful since vocational school students will meet many practical works in their study.

Procedure text has the main function to explain how to do or to make something in a sequence of actions. It has some language features like using mainly action verbs, imperative sentences and conjunctions. In making procedure text, the students should know the object of explanation and be able to identify its steps distinctively. They should understand how to arrange those steps into a good sequence of procedures as well.

To write a procedure text seems to be a main problem for some vocational high school English teachers to encourage their students to write it. Some students find themselves not have any idea about what to write. This might be caused by their lack of vocabulary and grammatical knowledge in constructing sentences. It also might be caused by students' low understanding in procedure text's generic structure.

This case also happens to the tenth grade students of SMKTI Al-Madani Pontianak. From the writer's pre-research observation, most of the Tenth grade students of SMKTI Al-Madani have lack of vocabulary and grammatical pattern. In this case, most of the students said that they felt confused about what words should be written when there was a writing task about procedure text. As the result, there are only a few students who can get involved actively in writing class.

To make students be active in writing class and to improve their writing especially in procedure text, in order to follow the curriculum, the teacher should select an appropriate technique so that they are encouraged to write. The teacher should apply a technique which helps students to overcome their difficulties in writing. This technique should be able to guide students to write step by step, so that they can accomplish their writing tasks more effectively.

One of the techniques that is applicable to teaching writing is Picture Words Inductive Model or PWIM. Calhoun (1999:21) stated that PWIM is an inquiry-oriented technique for the teaching of writing, reading, listening and speaking skill that uses picture containing familiar objects, actions and scenes to draw out familiar word that students ever heard. Based on the statement, the writer believes that PWIM would help the students in transferring their ideas into written form, in this case it is the procedure text, through the picture by adding all words related to the picture. Then the students are allowed to write those words in their own

picture word chart. After that, the students can create a title and generate sentences and finally make a complete procedure text based on the words from their picture word chart.

From the explanation above, the writer chooses Picture Words Inductive model (PWIM) as the technique in teaching writing procedure text. Calhoun (1999: 22) stated that this technique has some advantages in teaching writing such as: it helps the students to identify the words based on the picture they see; classify and generalize the words based on their parts of speech; and develop titles, sentences and paragraphs based on the picture. These advantages are in accordance with the problems found by the writer earlier, and it is believed that it can help the students to overcome their problems.

In the previous research, Sri Mawarny Suriyono (2010) selected PWIM in conducting her classroom action research. She used this technique in teaching descriptive text writing. From her research, this technique was described effective in improving her students' writing ability because the students got significant increasing scores from the first until the third cycle. However, the writer still has curiosity on investigating the effect of PWIM in improving the students' ability in writing procedure text.

The writer conducted a pre-experimental research on the tenth grade students of SMKTI Al-Madani Pontianak. The choice of this population or research subjects is based on the writer's pre-research in this school that Picture Word inductive Model (PWIM) has not been applied yet in that school. It means that this technique is a new technique. In addition, conducting this research is also to prove whether this technique can be useful for the students in order to improve their writing skill in procedure text.

## **METHOD**

Research is the investigation of a subject matter for the purpose of adding to knowledge. Research can mean 're-search' implying that the subject matter is already known but, for one reason or another, needs to be studied again (Ross 2005:1). In this research, the writer intends to investigate the effectiveness of using PWIM in teaching procedure text writing. In accordance with the research problems, the appropriate method to be used in this research is Pre-experimental Design or single group pretest and posttest design. This design is written  $O_1 \times O_2$ , which indicates a pretest is given to all subjects; they are given the experimental treatment and the posttest.

Furthermore, according to Cohen, Luis et al (2000: 212):

Very often, reports about the value of a new teaching method or interest aroused by some curriculum innovation or other reveal that a researcher has measured a group on a dependent variable ( $O_1$ ), for example, attitudes or scores towards groups, and then introduced an experimental manipulation ( $X$ ), a project designed to increase the scores or desirable attitudes. Following the experimental treatment, the researcher has again measured group attitudes ( $O_2$ ) and proceeded to account for differences between pretest and post-test scores by reference to the effects of  $X$ . The one group pretest-post-test design can be represented as  $O_1 \times O_2$

In this research, the writer applies a pre-experimental method, which the finding data are described based on the substantive matter of the research purposes. Pre experimental study has three stages. First stage is called pretest. Second stage is called treatment (teaching process) and the last stage after treatment is called posttest. The process is drawn as follow:

**Table 1: The Stages of Pre-experimental Research**

O <sub>1</sub>	X	O <sub>2</sub>
Pre-test	Treatment	Post-test

1. O<sub>1</sub> is first test, which is the pretest, to know the achievement of the sample on procedure writing; O<sub>1</sub> is used to measure the students' mean score of mastering in procedure writing before the treatments.
2. X is the planned three times of treatment to the students that is teaching procedure text by using PWIM.
3. O<sub>2</sub> is second test, which is the posttest, to know the achievement of the sample after giving the treatments on procedure writing; O<sub>2</sub> is used to measure mean score of mastering procedure writing.
4. O<sub>1</sub> and O<sub>2</sub> are compared to determine how far the students' interval scores of procedure text.
5. Apply t – test to determine whether the interval score is significant or not.

## FINDINGS AND DISCUSSION

### Findings

This research was conducted to investigate the effect of Picture Word Inductive Model (PWIM) in improving the students' ability in writing procedure text. In this research, pre-test and post-test were given to the students. The students' progress is calculated by using the formula. The result of pre-test shows the result of the students' score before treatment is being conducted, and the post-test shows the result of the students' score after the entire treatment processes.

After some treatments, the achievement test is given to evaluate the students' writing of procedure text by applying PWIM. The scores are calculated based on the students' result of achievement. The pre-test given is recommended as the first test before treatment. On the pre-test, the students' lowest individual score was 30 while the highest individual score was 75. Moreover, students' achievement score was considered *poor to average*, which the students' average score is 51.91 (fifty one point nine one).

The post-test was administered after giving some treatments and pre-test. The post-test is also considered as the final evaluation of students' writing skill of procedure text by applying PWIM whether effective or not. From the result of post-test, the students' lowest individual score was 45 while the highest individual score was 80 and the students' score achievement is 63.97 (sixty three point nine seven) and categorized *average to good*.

After some treatments are given to the students, there is a significant change of students' score between pre-test and post-test scores, and the significant change

can be seen in the table below, and the computation of the interval score can be described as follows:

$$\begin{aligned}\bar{D} &= \bar{X}_2 - \bar{X}_1 \\ &= 63.97 - 51.91 \\ &= 12.06\end{aligned}$$

**Table 2: The Students' Interval Mean Score of Pre-Test and Post-Test**

TEST	MEAN SCORE	QUALIFICATION
Pre-test	51.91	Poor to average
Post-test	63.97	Average to Good
Different Score	12.06	

After interval mean score of pre-test and post-test has been calculated, the next step was to find out the interval achievement score of pre-test and post-test. The calculation was shown in the table below.

**Table 3: Students' Interval Achievement Score of Pre-test and Post-test**

NO	STUDENTS' CODE	PRE-TEST	POST-TEST	$D$	$D^2$
1	X1	30	60	30	900
2	X2	50	65	15	225
3	X3	40	45	5	25
4	X4	50	65	15	225
5	X5	35	60	25	625
6	X6	65	65	0	0
7	X7	65	70	5	25
8	X8	40	60	20	400
9	X9	30	50	20	400
10	X10	65	75	10	100
11	X11	60	60	0	0
12	X12	60	65	5	25
13	X13	35	65	30	900
14	X14	60	60	0	0
15	X15	55	65	10	100
16	X16	70	75	5	25
17	X17	65	75	10	100
18	X18	70	70	0	0
19	X19	35	60	25	625
20	X20	55	65	10	100

21	X21	70	75	5	25
22	X22	55	60	5	25
23	X23	65	70	5	25
24	X24	35	60	25	625
25	X25	65	75	10	100
26	X26	55	65	10	100
27	X27	70	75	5	25
28	X28	75	80	5	25
29	X29	45	65	20	400
30	X30	65	75	10	100
31	X31	30	45	15	225
32	X32	30	60	30	900
33	X33	40	50	10	100
34	X34	30	45	15	225
<b>N = 34</b>		<b><math>\sum X_1 =</math> 1765</b>	<b><math>\sum X_2 =</math> 2175</b>	<b><math>\sum D =</math> 410</b>	<b><math>\sum D^2 =</math> 7700</b>

After having the students' interval mean score of pre-test and post-test, the next step is to find out the significant influence of the treatment procedure, the students' different score indicates the significant change of post-test score. The score is calculated by using  $t$  – test formula.

$$\begin{aligned}
 t &= \frac{\bar{D}}{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}} \\
 &= \frac{12.06}{\sqrt{\frac{7700 - \frac{(410)^2}{34}}{34(34-1)}}} \\
 &= \frac{12.06}{\sqrt{2.45}} \\
 &= \frac{12.06}{1.56} \\
 &= 7.7
 \end{aligned}$$

From the result of computation above, it is obtained that the value of t-test observed is higher than t-table. Thus, it means that the mean score of pre-test and



post-test of experiment being observed have a significance difference. The calculation of t-test indicates 7.7 which is higher than t-table for the degree of freedom  $N - 1$  ( $34 - 1$ ). Then the value of observed  $t$  is checked to see whether the difference is significant at the level of 0.05. The  $t$  critical value is 2.035. It means the students have significant achievement after they got the treatment.

After having the result of the score of t-test, the findings of effect size of the treatment presented in the table below.

**Table 4: Students' Significant Effect Score of treatment**

STUDENTS' CODE	$X_1$	$X_1 - \bar{X}_1$	$(X_1 - \bar{X}_1)^2$	$X_2$	$X_2 - \bar{X}_2$	$(X_2 - \bar{X}_2)^2$
X1	30	-21.9	479.61	60	-3.9	15.21
X2	50	-1.9	3.61	65	1.1	1.21
X3	40	-11.9	141.61	45	-18.9	357.21
X4	50	-1.9	3.61	65	1.1	1.21
X5	35	-16.9	285.61	60	-3.9	15.21
X6	65	13.1	171.61	65	1.1	1.21
X7	65	13.1	171.61	70	6.1	37.21
X8	40	-11.9	141.61	60	-3.9	15.21
X9	30	-21.9	479.61	50	-13.9	193.21
X10	65	13.1	171.61	75	11.1	123.21
X11	60	8.1	65.61	60	-3.9	15.21
X12	60	8.1	65.61	65	1.1	1.21
X13	35	-16.9	285.61	65	1.1	1.21
X14	60	8.1	65.61	60	-3.9	15.21
X15	55	3.1	9.61	65	1.1	1.21
X16	70	18.1	327.61	75	11.1	123.21
X17	65	13.1	171.61	75	11.1	123.21
X18	70	18.1	327.61	70	6.1	37.21
X19	35	-16.9	285.61	60	-3.9	15.21
X20	55	3.1	9.61	65	1.1	1.21
X21	70	18.1	327.61	75	11.1	123.21
X22	55	3.1	9.61	60	-3.9	15.21
X23	65	13.1	171.61	70	6.1	37.21
X24	35	-16.9	285.61	60	-3.9	15.21
X25	65	13.1	171.61	75	11.1	123.21
X26	55	3.1	9.61	65	1.1	1.21
X27	70	18.1	327.61	75	11.1	123.21
X28	75	23.1	533.61	80	16.1	259.21
X29	45	-6.9	47.61	65	1.1	1.21
X30	65	13.1	171.61	75	11.1	123.21
X31	30	-21.9	479.61	45	-18.9	357.21
X32	30	-21.9	479.61	60	-3.9	15.21

X33	40	-11.9	141.61	50	-13.9	193.21
X34	30	-21.9	479.61	45	-18.9	357.21
$\Sigma$				$\Sigma$		
<b>=7300.74</b>				<b>=2839.14</b>		

In this scoring process, (1) effect size of the independent variable on the dependent variable, (2) the standard deviation of pre-test score and (3) standard deviation of post-test score are computed by using the following formula:

$$\begin{aligned}
 Se &= \sqrt{\frac{\sum(x_2 - \bar{x}_2)^2}{N}} \\
 &= \sqrt{\frac{2839.14}{34}} \\
 &= \sqrt{83.50} \\
 &= \mathbf{9.1}
 \end{aligned}$$

$$\begin{aligned}
 Sc &= \sqrt{\frac{\sum(x_1 - \bar{x}_1)^2}{N}} \\
 &= \sqrt{\frac{7300.74}{34}} \\
 &= \sqrt{214.72} \\
 &= \mathbf{14.6}
 \end{aligned}$$

$$\begin{aligned}
 Sp &= \sqrt{\frac{(Ne - 1)Se^2 + (Nc - 1)Sc^2}{Ne + Nc - 2}} \\
 &= \sqrt{\frac{(34 - 1)(9.1)^2 + (34 - 1)(14.6)^2}{34 + 34 - 2}} \\
 &= \sqrt{\frac{(33)(82.81) + (33)(213.16)}{66}} \\
 &= \sqrt{\frac{2732.73 + 7034.28}{66}} \\
 &= \sqrt{147.98} \\
 &= \mathbf{12.1}
 \end{aligned}$$

$$\begin{aligned}
 ES &= \frac{\bar{X}_e - \bar{X}_c}{Sp} \\
 &= \frac{63.97 - 51.91}{12.1} \\
 &= \mathbf{0.9 \text{ (high effective)}}
 \end{aligned}$$

Based on the result of the data computation, the writer found that the t-test score (7.7) was higher than the t-table (2.035) at 0.05 the degree of freedom (df) =  $N - 1$  ( $34 - 1 = 33$ ). It could prove that applying PWIM in writing procedure text is effective.

Meanwhile, the effect size of treatment (ES) is 0.9. It was used to answer the problem “How effective is PWIM in developing the students’ procedure text writing?” According to Hatch and lazarton (1991), if the  $ES > 0.8$ , it is categorized as high effective. From the calculation, the ES (effect size of the independent variable on the dependent variable) of this research is 0.9 ( $0.9 > 0.8$ ). Therefore, the applying of PWIM is highly effective to develop the students’ achievement in procedure text writing.

## **Discussion**

This research was conducted in order to teach the students to write a procedure text by using PWIM as guide. In teaching procedure text, the students were given some practices that enable them to construct the procedure text.

As mentioned in previous part of this research, this research was aimed at investigating the students’ ability in constructing the procedure text. Then, this research was also aimed at investigating the effectiveness of PWIM technique. The idea of this research was drilling the students to write a simple procedure text with the help of PWIM.

From the research findings, applying PWIM significantly changed the students’ achievement in writing skill of procedure text achievement. Furthermore, PWIM technique is quite helpful for the writer to generate and guide the students in composing procedure text.

As stated above, the students’ score of pre-test and post-test had significant result at 0.05 df (Degree of Freedom) with the significant score of effect size at 0.9. In this research, it has significant score on the effect size; it presents the increase of students’ average score between pretest and posttest. Based on this research finding, the entire processes of treatment have been successfully done during the teaching learning process. The processes, certainly, did not run out from the procedures of classroom presentation, which leads the writer to provide this strategy in assisting the students to write a procedure text, and the increasing point runs about 12.06. The score of the increase point shows us that using PWIM can be recommended as the solutions for the teachers to bring their students to a new concept of assisting the students to use their ability in writing skill of procedure text.

Furthermore, the procedures actually are just to maintain and keep the students’ motivation and their role during the teaching learning process is being held. From the results of treatment, in every meeting the teacher focused on encouraging the students to use PWIM to help them in developing writing skill.

When the activity of writing procedure text was underway, the students were given the four stages as follows:

- a. Prewriting

In this step, students gathered their ideas about what they wanted to write by exploring the picture. Then, the students were asked to identify what they had seen on the picture.

b. Organizing the ideas

The students were asked to make a list of ideas as a guidance to write based on what they had seen on the picture.

c. Composing

Students started writing a procedure text at the first time in the form of a rough draft. In this case, they created title and generated sentence, sentences or a paragraph based on the ideas they have listed.

d. Editing

The students read and reviewed their rough draft. This step was to check the appropriateness of grammar, mechanics and sentence structures the students have made in their rough draft.

e. Revising

Revising, in this case, was writing the final draft of the procedure text.

For all activities, the teacher explained students how they should use PWIM technique in order to help them in constructing a procedure text. Practicing by paired or group was highly recommended in this process.

Some activities in the PWIM technique have given positive impacts to the teaching learning activity. One of the positive impacts is the building of confidence in students' ability to learn. Another positive impact is PWIM has trained the students on how to inquire the language and use knowledge and skills to read and write and participate fully in the teaching learning activity.

Through PWIM, the writer could find some strength as follows:

- a. This technique develops students' vocabulary since they have to observe the picture and find the appropriate words to describe the picture by themselves.
- b. This technique encourages the students to explore the picture. So, it will make the learning atmosphere more attractive and challenging.
- c. This technique enables the students to listen and to see the correct words identified and written correctly many times.
- d. This technique makes the students learn the writing material better and faster, since they inquire the words and the sentence structure in the teaching learning process.

But this technique also has some weaknesses. This technique takes fairly much time in preparation and process. It also requires many repetitions in order to let the students inquire the knowledge.

## CONCLUSION

After having the entire processes of the research, the writer would like to point out some conclusions. The conclusions consist of the general findings and the teaching learning process.

1. The result of students' score achievement is significantly increased from pre-test to post-test. On the pre-test, the students' lowest individual score was **30** while the highest individual score was **75**. The total score of the students' pre-test was **1765**, the mean score **51.91**, and it was categorized as "poor to

average”. On the post-test, the students’ lowest individual score was **45** while the highest individual score was **80**. The total score of post-test was **2175**, the mean score was **63.97**, and it was categorized as “average to good”. It showed there were different scores of pre-test and post-test was **12.06**. It means that the use of PWIM technique considered the effective but continued skill instruction must be evaluated and modified.

2. From these results of computation t-test, the value was **7.7** observed is higher than **t – table (2.035)** with 5% from 34 students in this research. Thus, it means that the mean score of pre-test and post-test of experiment being observed have a significant difference.
3. The significant score of effect size is at **0.9**. From the result of testing hypothesis, the significant score of effect size is categorized as *high* (ES >0.8). There is a significant effect for the effect size during the treatment in implementing the PWIM technique.
4. The role of PWIM technique indicates that the students’ achievement on writing of procedure text skill was better and it was found that they have good motivation in writing a procedure text.
5. The teaching learning process of procedure text by using PWIM technique to the students gets significant changes in the students’ achievement and the students’ activities in classroom because by assisting them with PWIM technique the students can start writing as the guidance when they write a procedure text.
6. From the analysis result of the students individual score, interval score, students’ significant scores, and the effect of treatment, it can be concluded that the applying of PWIM is highly effective to develop the students’ achievement in procedure text writing.

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